

Architectural Program

Memorial Drive Reconstruction

KU Project No. LzU-10715

(Also includes future phases: LzU-10716, LzU-10717)

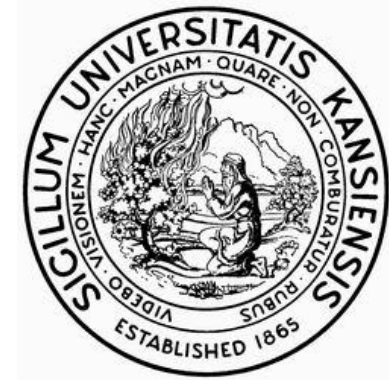
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KU Parking & Transit

Office of Design & Construction Management



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Introduction

“Though not constructed until 1951 in the era of Alton Thomas and Keith Lawton, Memorial Drive accomplished the same vision of the Kessler plan for the drive to sweep across the mid-hill path of the north slope, providing a broad panorama of outward views...The introduction of the Campanile as a center point and the completion of Memorial Drive made the entire north hillside accessible by car.

...Memorial Drive was designed to be driven. It was also designed to intersect with the sacred graduation walk down the Hill at the site of the new Campanile. Because it was designed to be driven, Memorial Drive is experienced through movement and a series of unfolding views along the serpentine path. The drive was intended as a location for additional memorials and the more recent installations of the Vietnam and Korean war memorials are sited consistently with the original intent of placing purely ceremonial elements along this drive”. Excerpted from the 2008 Campus Heritage Plan

Memorial Drive is a vehicular drive running from West Campus Road east to Mississippi Street north of Snow, Strong and Bailey halls. It was designed to complement the Memorial Carillon and Campanile, honoring the 277 KU alumni, students, faculty and staff who died in World War II and the more than 7,000 who served, and was completed in 1951. Memorial Drive also provides access to Marvin Grove, Potter Lake, the Hill and the Vietnam and Korean Memorials.

The western half of Memorial Drive was constructed on or adjacent to three old limestone quarry sites; the Murray and Cockins sites were acquired by the University of Kansas in 1905. Another unnamed quarry located east and south of Carruth O’Leary was believed to have been used by the University for limestone for several campus buildings.

In 1910, the City of Lawrence extended their electric trolley line onto campus. It extended up the north slope along the west side of Mississippi Street, passed behind Bailey Hall and turned to the south, between Strong and Bailey halls. It served as a link between the city and the KU campus until 1933.

Project Overview

Concepts for the renovation of Memorial Drive are addressed within the 1997 Campus Plan, the 2002 Campus Landscape Master Plan, the 2008 Campus Heritage Plan and the 2014 Campus Master Plan. The Campus Heritage Plan provided extensive history, establishment of historic contexts and treatment recommendations for the campus that were not available at the time of the Landscape Master Plan. For this reason, the recommendations of the Campus Heritage Plan will take priority in the event of conflicting recommendations.

Memorial Drive is listed as a 'Contributing Resource' within the University of Kansas Historic District, therefore all improvements within this project shall comply with requirements of the historic district listing.

The western 450 feet of Memorial Drive was partially replaced in 2003, when work was completed for the Korean Memorial. As part of that project, the first improvements were made to Memorial Drive which implemented elements from the 2002 Campus Landscape Master Plan, such as parking and retaining walls on the south side of the road, sidewalks along the north side of the road, and stairs to Jayhawk Boulevard. The sidewalks were constructed using integrally colored concrete with inlaid brick pavers, per the initial master plan recommendations, but have not held up well.

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The remainder of the Memorial Drive roadway east of this segment has deteriorated significantly over the years. This project proposes to replace the roadway, sidewalks, lighting and landscaping, and will upgrade stormwater drainage, perform slope stabilization and replace utilities as needed. The master plan calls for parking to be moved off the north side of the road, to the south side and perpendicular to the drive. This will restore the views that existed in the early years after it was built, during the periods of significance for all of the historic properties that are adjacent to Memorial Drive, within the University of Kansas Historic District.

The reconstruction of Memorial Drive will be completed in phases, as funds become available, with the anticipated first phase of construction to be completed in the summer of 2016. The consultant selected for Phase I of this project will complete a master plan design for the entire Memorial Drive corridor, with bid documents formatted for three or more phases of construction. The currently anticipated limits of each phase are as follows, but may be adjusted or expanded to four phases, depending upon funding availability:

- KU Project No. LzU-10715, Memorial Drive Reconstruction Phase 1: From West Campus Road to the east end of Lot 36 (adjacent to the northwest corner of Spencer Research Library and the east stairs to Potter Lake).
- KU Project No. LzU-10716, Memorial Drive Reconstruction Phase 2: From the east end of Lot 36 (adjacent to the northwest corner of Spencer Research Library and the east stairs to Potter Lake) to east end of Lot 39 blue zone (adjacent to the stairs to Marvin Grove, midway between Strong Hall and Bailey Hall).
- KU Project No. LzU-10717, Memorial Drive Reconstruction Phase 3: From the west end of Lot 39 red zone (adjacent to the stairs to Marvin Grove, midway between Strong Hall and Bailey Hall) to Mississippi Street.

Design Criteria and Goals

The design for this project shall address the followings needs, goals and objectives:

- Provide an aesthetically appropriate and sustainable travel corridor consistent with the KU Landscape Master Plan and the campus sustainability plan.
- Create a roadway that is safe for motorists, pedestrians, bicyclists and transit vehicles, which is also cost-effective to maintain.
- Complete the work within the design and construction schedule, while maintaining high standards of quality in all areas.
- Address the operational needs and goals of KU Parking and Transit.
- Improve the storm water handling capabilities of this road segment and intersecting roadways. Strive to enhance storm water detention/retention where feasible.
- During design, evaluate in detail all feasible options for potential cost savings. With the Owner, determine those adjustments which will be implemented in order to maintain the high quality of the road system, while minimizing costs.
- Integrate accessible features within the work, in full compliance with current ADA requirements.
 - Intersections shall include curb ramps and cross walks, and shall connect to sidewalks, bike trails and walks to buildings.
 - Accessible paths of travel shall be provided between ADA compliant parking and the Campanile, and ADA parking and a north entrance to Snow Hall.
 - Parking and loading zones shall provide compliant cross-slopes and access aisles.
- Maintain continuous utility services and facility services needs during all phases of the project.

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- Develop and implement a proactive and collaborative team approach to delivering the overall project on time and within budget.
- Develop plans for effective screening of the mechanical and/or electrical equipment along the south side of Memorial Drive, including appropriate improvements to screens around existing M/E units along the drive.
- Provide overall parking counts similar to current parking counts.

Space and Program Needs

Proposed improvements include the following items, which will be prioritized in collaboration with KU and which shall be completed to the extent that current funding allows. Alternate bids will be taken for flexibility in bid awards & overall phasing.

Mechanical / Electrical

- The design services include preparing alternate bids for the following, which may be awarded if funds are available to do so; using this project's funds or funds from other sources:
 - Screening for the cooling tower located along Memorial Drive, at the Northeast corner of the Spencer Research Library.
 - Improved screening for all mechanical equipment supporting Snow Hall.
 - Screening for the electrical equipment east of Bailey Hall.
 - Maintaining tunnel access east of Snow Hall
- Air Intakes: Protection of all building air intakes and/or HVAC components is required in areas that may be affected by construction dust and debris.

- LED site lighting: Compare the benefits of 20' and 30' poles, and provide banner supports on the poles, which are to be located along the north side of Memorial Drive.

Telecommunications & Security

- Existing wireless access points shall remain or be relocated. Additional wireless access points may be added, as determined by KU-IT.
- Security cameras shall remain or be relocated. Additional security cameras may be added to provide adequate coverage of the roadway and parking corridor, as determined by the KU Public Safety Office.

Site Improvements & Infrastructure

Site Improvements

- Installation of a stormwater system, which shall, at a minimum, comply with the concepts within the Black & Veatch 1993 University of Kansas Comprehensive Stormwater Study.
- Preparation of the road and sidewalk subgrade, and reconstruction of the street and sidewalk systems in a manner consistent with the recommendations of the Campus Heritage Plan, Landscape Master Plan and Campus Master Plan.
- Slope stabilization as required to provide a stable sub-base for new surface features.
- Evaluation and design of new street pavement, based upon consultant review of traffic types, patterns and frequencies.
- Evaluation and design of new sidewalks along the entire north side of the drive, including up to the northern-most portion of Memorial Drive. Extend and connect a sidewalk to West Campus Road, via a crosswalk.

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- Parking stalls along this corridor shall be reconfigured to eliminate parallel parking and remove parking from the north side of Memorial Drive. Parking will be on the South side only, perpendicular to the drive.
- Accessible paths and required exiting will be maintained or enhanced from all buildings. Temporary accessible parking locations and accessible paths shall be provided as necessary to serve all existing buildings.
- Appropriate provisions shall be included to address re-routing of pedestrian, vehicular, delivery and transit traffic in this area during construction.
- Landscape plantings, lighting and streetscape improvements shall be included, appropriate to the historic context of the corridor and district.
- Maintain existing Memorial Drive monument signage at east and west ends of drive.
- Provide effective protection for the Korean War Memorial from equipment and vehicles during construction and permanently for the future.
 - Replace existing integrally colored concrete sidewalks in this area.
 - Remove and replace existing concrete bollards with appropriate, permanent bollards of substantial construction and foundations/piers.
- New recognition and viewing “nodes” shall be included in the planning, as indicated:
 - At west end of Memorial Drive, from the Vietnam Memorial to Memorial Drive and West Campus Road.
 - Relocate the “Victory Eagle” sculpture from Dyche Hall to the node west of the Campanile
 - Plan for other future nodes as appropriate

Utilities & Infrastructure

Evaluate all existing underground utilities within the corridor and upgrade deteriorating lines as needed.

- Upgrade and/or add storm drainage as required, including collection, filtration and detention as appropriate.
- Site lighting shall be upgraded to support the indicated improvements.
- Where appropriate and feasible, tunnels adjacent to the drive shall be extended to meet new retaining walls along the south side of the drive.
- Coordinate with City of Lawrence for storm sewer and paving replacements at West Campus Road, and include approved elements of that work in this project scope.

Hazardous Materials

The KU Environmental Health & Safety Office will perform tests of existing materials which will be affected by the project work, in order to determine if they are asbestos-containing and to solicit proposals from abatement contractors.

KU’s standard policy is to remove all hazardous materials when undertaking major renovations.

Deferred Maintenance

The reconstruction of Memorial Drive is part of the University’s ongoing maintenance program and will address:

- Deteriorated pavement and curbs.
- Deteriorated sidewalks and deficient accessibility.
- Storm drainage and other deficient/deteriorated utilities.

Design Standards / Consultant Services

The architectural/engineering (A/E) team shall comply with the latest provisions of the University of Kansas *Design and Construction Standards*, as maintained by the Office of Design and Construction Management (DCM), posted online at DCM's website at: <http://www.dcm.ku.edu/standards>

- The A/E team shall also comply with supplemental updates to these standards which may be issued during the course of the project.
- The A/E team shall comply with KU Audit and Strategic Sourcing guidelines, also posted at the DCM website.
- The Owner's Representative shall be a DCM staff person assigned to serve as KU's Project Manager, and who shall be the primary point of contact for all communications between the Owner, A/E and Contractor.
- Electronic Files: Consultants shall deliver to KU a complete set of electronic files for all drawings and specs for each design submittal, bid set & as-built documents.
 - Each set of electronic files shall include both PDF and AutoCAD .dwg files for each drawing sheet.
- Physical or 3D/CAD models, if produced by the consultant to explain the design, shall be delivered to and remain the property of the University.
 - Photo-realistic renderings may be required during the design phase to clearly communicate the proposed design options, and for the Owner's use in media distribution, fund-raising and other purposes.
- Program Verification: A/E shall review and confirm all program needs with KU client/DCM, and shall reconcile the proposed project scope with the available funding.
- State Contracts: Since this project is considered to be state funded, A/E selection and contracting will be via State of Kansas, using OFPM's standard form of contract.

- KU will provide access to all buildings and site locations; provide access to and reproductions of record copies of drawings, specifications, and shop drawings as may exist for the systems and environs; and provide consultation with technical and professional University staff involved in facility and utility operations.
- KU will contract with a third party for geotechnical services required for this project, including sub-surface investigations, and construction testing and inspections.
- KU may elect to have the consultant complete the construction documents for all phases of work during Phase One of the project, with the scope limits and alternate bids refined and updated to prepare each of the following phases for bidding, or KU may elect to have the consultant only complete each phase as the available funding and scope are confirmed for the next phase to be bid and constructed.

Code Requirements

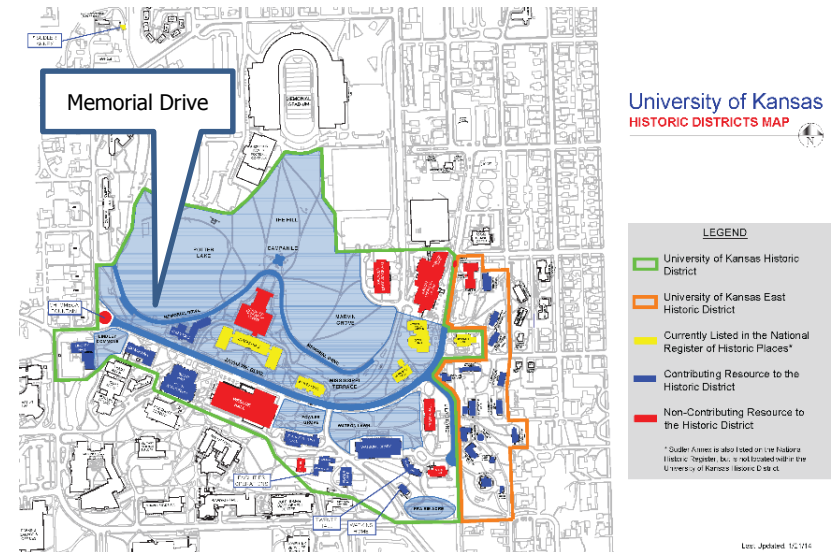
- Codes currently used on KU projects include the following:
 - International Building Codes, 2012 edition (in lieu of 2006 edition, per agreement with OFPM).
 - Kansas Fire Prevention Code, KSFMO, current edition.
 - ASHRAE 90.1, 2007 edition (plus 30% performance improvement).
 - Other codes as listed at the State of Kansas, Office of Facilities & Procurement Management – Design, Construction & Compliance (OFPM-DCC) website.
- Code Footprints: It is assumed that a Code Footprint will not need to be submitted for this project, but the consultant shall submit an "Is a Code Footprint Required" form to OFPM to confirm this.
- Construction Exiting: Temporary fire-rated exit corridors shall be provided through the construction site, if required

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to protect and direct occupants from all required exits in the surrounding occupied existing buildings to a public way. They shall remain in-place at all times while construction work is underway.

- Considerations shall be made for fire truck & emergency responder access to required areas at all times during construction.
- ADA Compliance: KU seeks to design facilities and public ways which are universally accessible and which provide accessibility for all in an integrated, discreet manner.
 - Project scope will include all temporary and permanent code and ADA-related improvements that are required in order to complete the proposed scope of work, including required ADA improvements along accessible paths of travel to primary function areas.



Historic Preservation Reviews

Projects on the KU Lawrence campus that are within a KU building listed on the State or National Register of Historic Places, or within one of KU's Historic Districts, require administrative review by DCM staff or full review by DCM staff and the Campus Historic Preservation Board (CHPB).

The Kansas Legislature repealed the 500' historic environs reviews in 2013, and although the City of Lawrence still requires environs reviews within 250' of properties listed on the City's historic register, KU projects within the City's 250' environs limits are not subject to review if on State property.

A copy of the KU Historic District Map can be viewed online at the DCM website, [KU Buildings](#) page. The City's environs limits can be viewed on the Lawrence [Interactive City Map](#).

Note: This project is located within a listed Historic District, so historic preservation compliance reviews will be required, as applicable.

KU - City Cooperation Agreement

KU and the City of Lawrence entered into a jointly-beneficial Cooperation Agreement in April 2005. It designated a compatibility buffer zone that extends 150' deep onto KU's property from the primary exterior boundary of KU's property.

New construction on the KU Lawrence campus within the 150' compatibility buffer zone must comply with designated City land-use regulations, standards and requirements.

Note: This project is located within the 150' compatibility buffer zone, but does not fall under the KU-City Cooperation Agreement per provisions in that agreement which exempt maintenance or repair improvements.

KU and the project team shall still meet with City representatives, to brief them on the proposed scope and schedule of each project, to review project components that may need to be coordinated between them, and to provide appropriate notifications before the commencement of each construction phase.

Impact on Overall Campus Space

This project is a renovation of an existing public way and will not add to or remove any space from the University's space inventory.

Annual Maintenance & Operating Costs

Funding for annual maintenance and operating costs will come from existing University resources or new private resources. No new state funding will be required to cover any of these costs.

Proposed Project Delivery Process

Competitive Bid

The University of Kansas proposes to use a traditional but expedited design-bid-build process for this project. The Owner and consultant team shall jointly develop strict pre-qualification criteria, designed to ensure that contractors approved to bid this project have a proven track record of delivering similar projects, under a similar expedited construction timeframe, and successfully meeting those schedules.

Project Budget (All Phases)

Construction Costs

Site Utilities	315,000
Earthwork, Parking, Roads, Walks	2,140,000
Landscaping, Site Amenities, Signage	150,000
Hazmat Abatement	20,000
Retaining Walls (KUPT \$)	1,650,000
Street Lighting	195,000
<u>West Campus Road - paving and utility work</u>	<u>225,000</u>
Subtotal - Construction Costs	\$4,695,000

Miscellaneous Costs

Fees - Consultants, State & KU Agencies	565,000
Printing, Shipping; Misc.	15,000
Construction Testing & Geotechnical	75,000
Infrastructure Renewal Fee	85,000
<u>Bidding & Construction Contingency (5%)</u>	<u>235,000</u>
Subtotal - Miscellaneous Costs	\$975,000

Total Project Cost (All Phases) \$5,670,000

Notes:

- 1) Funding is proposed to come from a combination of university resources, revenue bonds, state general funds and KU Parking & Transit funding.
- 2) Private gift funding may be identified for developing recognition and/or art nodes along the drive.
- 3) West Campus Road paving and utility costs are anticipated to be shared with the City of Lawrence.
- 4) Scope of each phase will be adjusted to fit available fiscal year funding and anticipated bidding climate.

Project Schedule

Phase One - Summer 2016 Construction

Advertise/Receive A/E RFQ Submittals	Apr.-May 2015
SBAC Shortlists A/E firms	June 2015
A/E Interviews / Selection	June 2015
Negotiate Fees; Start Design	July 2015
Schematic Design (1 mo.)	Aug. 2015
Design Development (2 mo.)	Oct. 2015
Complete CD's, Submit for Permits (4 mos.)	Feb. 2016
Advertise for Bids	Feb. 2016
Bidding Period; Receive Bids	Feb.-Mar. 2016
Award & Process Contracts	Mar.-April 2016
Start Construction	May 2016
Construction Completion	Aug. 2016

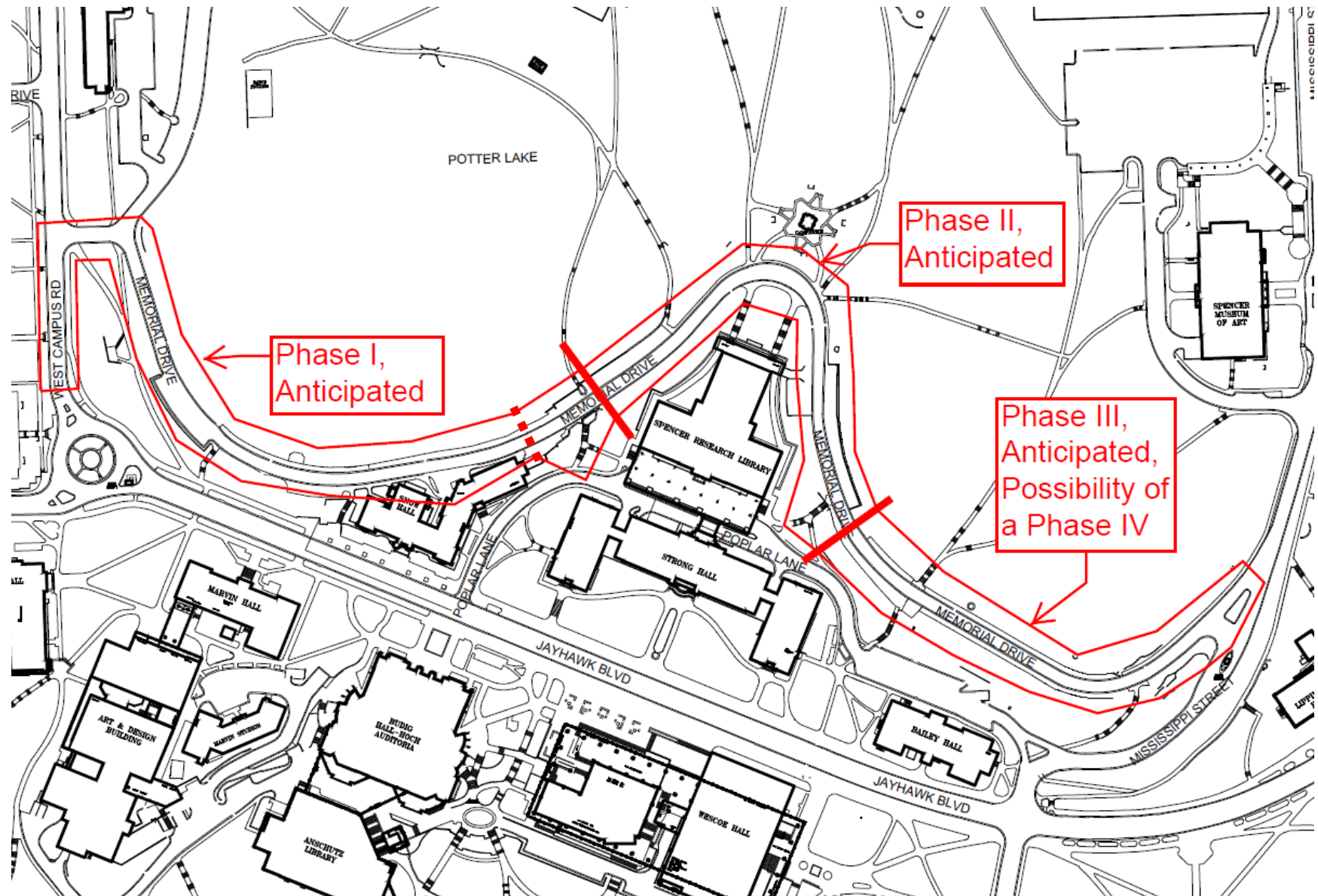
Phase Two - Summer 2017 Construction

Review/Update/Finalize Bid Docs.	Sept.-Nov. 2016
Advertise for Bids	Jan. 2017
Bidding Period; Receive Bids	Feb. 2017
Award & Process Contracts	Mar. 2017
Construction Starts	May 2017
Construction Completion	Aug. 2017

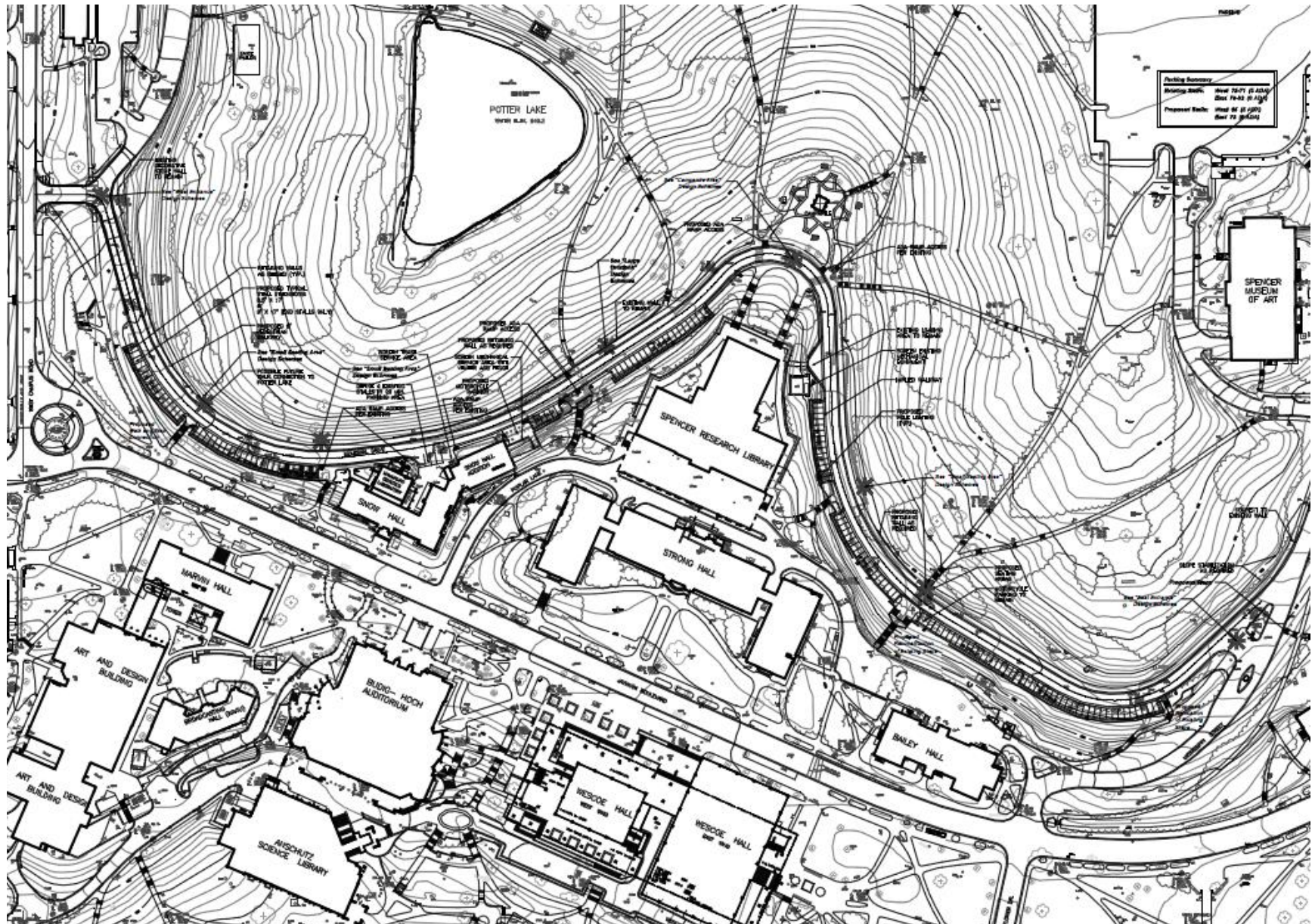
Phase Three - Summer 2018 Construction

Review/Update/Finalize Bid Docs.	Sept.-Nov. 2017
Advertise for Bids	Jan. 2018
Bidding Period; Receive Bids	Feb. 2018
Award & Process Contracts	Mar. 2018
Construction Starts	May 2018
Construction Completion	Aug. 2018

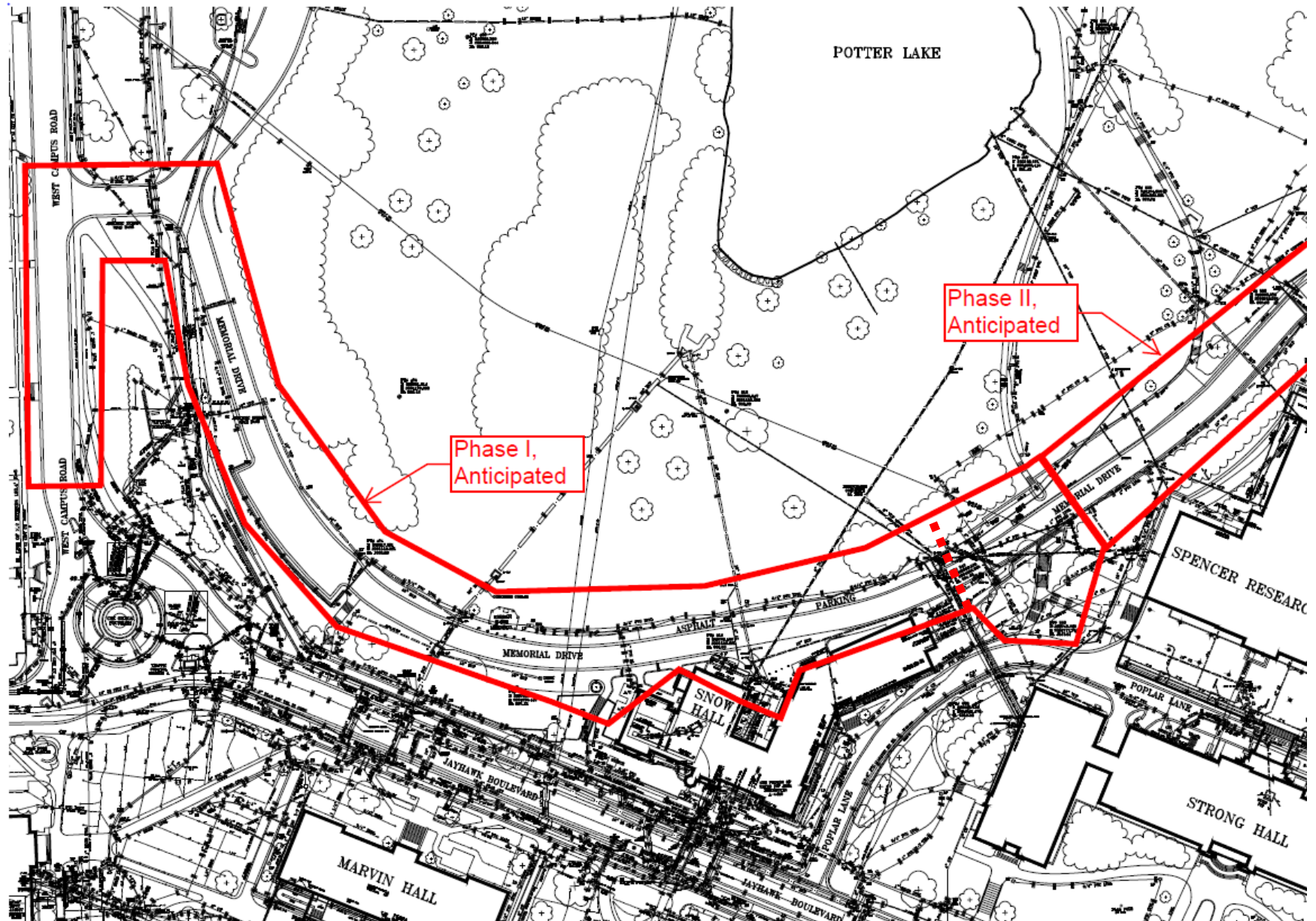
Existing Site Plan – Proposed Phasing



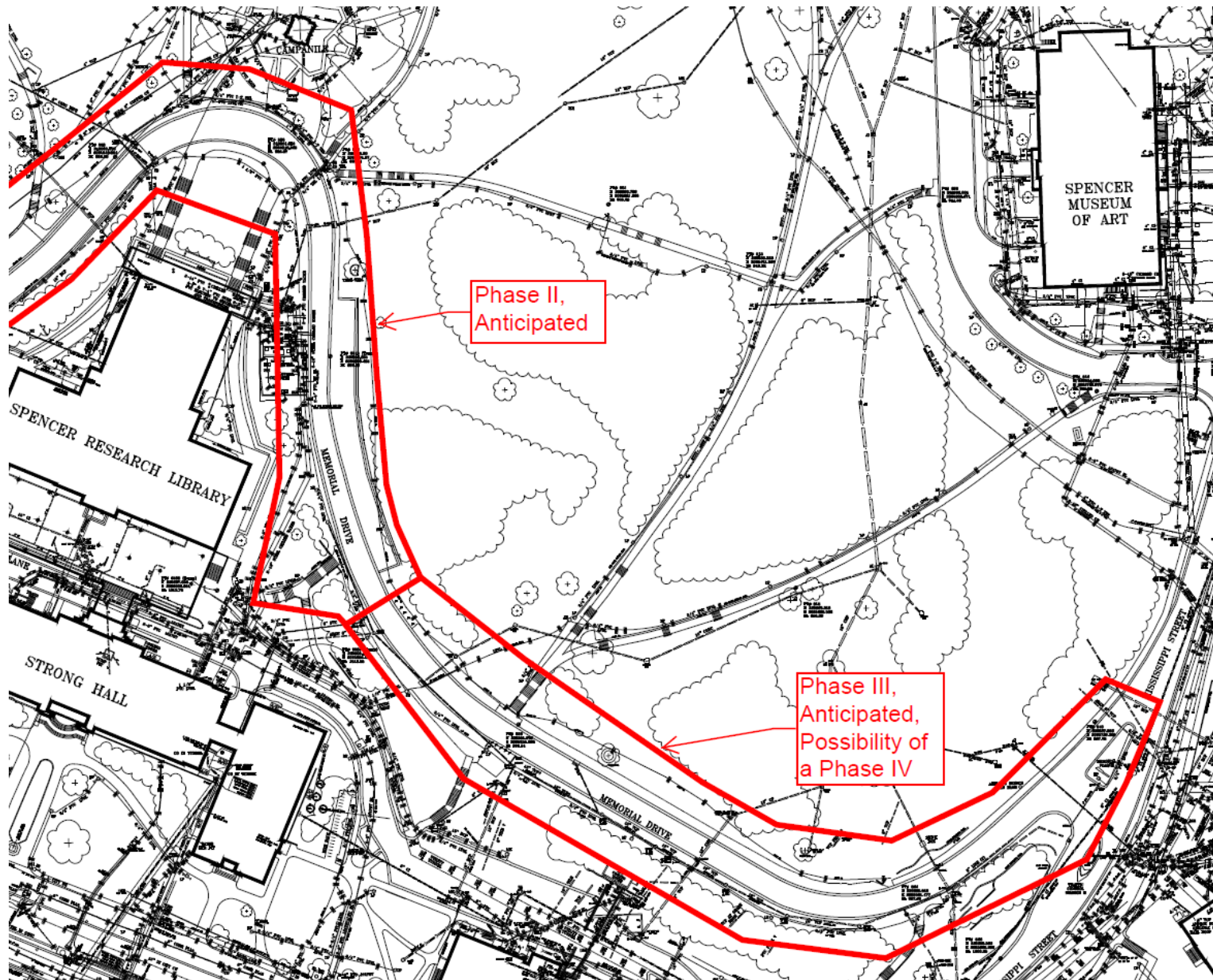
2002 Conceptual Site Plan



Existing Utility Plan - Phase I



Existing Utility Plan - Phase II and III



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Current Soil Boring Plan

